

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

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UNITED STATES PATENT AND TRADEMARK OFFICE

MAILED

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte EDWARD W. STARK

PAT. & T.M. OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

Appeal No. 1999-0456
Application No. 08/818,289

ON BRIEF¹

Before KRASS, BARRETT, and BLANKENSHIP, Administrative Patent Judges.

BLANKENSHIP, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1, 7, 33, and 36-40.

We reverse, and enter a new ground of rejection in accordance with 37 CFR § 1.196(b).

¹ We note an expression of intent, on page 1 of appellant's Appeal Brief, to present oral arguments. However, appellant did not perfect a Request for Oral Hearing in the instant case.

BACKGROUND

The disclosed invention is directed to method and apparatus for performing optical interactance and transmittance measurements on a specimen under study.

Claim 1 is reproduced below.

1. A method for improving optical interactance measurements comprising the steps of:

passing illumination along a plurality of different transmission paths through an interior portion of a material having a characteristic to be measured;

defining each of said paths by corresponding and separated surface areas on said material, one of said surface areas for passing illumination into said material and the second of said surface areas for passing transmitted illumination from said material for detection, at least one of said surface areas of each of said paths being extended in length at substantially constant spacing from the other surface area of said each of said paths, the total length of said extended surface area of said each of said paths being substantially greater than the mean distance separating said corresponding and separated surface areas defining said each of said paths;

sensing a plurality of independent signals developed at the same time or in rapid sequence representing optical information obtained from a spectrum related to the analytes and interferences within said material in response to said illumination passing along said different paths, each independent signal corresponding to a particular path; and

processing and combining said signals in accordance with appropriate chemometric modeling techniques and determination of model parameters during the calibration process to determine qualitative or quantitative characteristics of the material.

The examiner relies on the following references:

Howarth	3,994,602	Nov. 30, 1976
Borsboom	4,884,891	Dec. 5, 1989

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Claims 1, 7, 33, and 36-40 stand rejected under 35 U.S.C. § 103 as being unpatentable over appellant's admitted prior art, Borsboom, and Howarth.

Claims 6, 11-15, 17-19, 22-26, 35, 43, 45-53, and 56-71 have been allowed.

Claims 34, 41, and 42 have been indicated as allowable if rewritten in independent form (see Examiner's Answer at 4).

We refer to the Final Rejection (mailed Apr. 10, 1998) and the Examiner's Answer (mailed Sep. 9, 1998) for a statement of the examiner's position and to the Brief (filed Jul. 2, 1998) for appellant's position with respect to the claims which stand rejected.

OPINION

For the reason that we cannot ascertain the scope of the claims subject to the standing rejection over the prior art, we must reverse, pro forma, the 35 U.S.C. § 103 rejection over appellant's admitted prior art, Borsboom, and Howarth. If certain claim language is not understood, then any attempt to apply art against that claim can only be based on speculation. Rejections of claims over prior art should not be based on speculation as to the meaning of terms employed and assumptions as to the scope of the claims. In re Steele, 305 F.2d 859, 862, 134 USPQ 292, 295 (CCPA 1962). We enter a new ground of rejection against the claims under 37 CFR § 1.196(b), infra. By making this technical reversal of the rejection over the prior art, we do not mean to

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imply that the art relied upon by the examiner would not be relevant with respect to claims of determinate scope.

New Ground of Rejection -- 37 CFR § 1.196(b)

We enter the following new ground of rejection against the claims in accordance with 37 CFR § 1.196(b): claims 1, 6, 7, 33-43, and 45-52 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

The function of claims is (1) to point out what the invention is in such a way as to distinguish it from the prior art; and (2) to define the scope of protection afforded by the patent. In re Vamco Mach., Inc., 752 F.2d 1564, 1577 n.5, 224 USPQ 617, 635 n.5 (Fed. Cir. 1985). The legal standard for definiteness is whether a claim reasonably apprises those of skill in the art of its scope. In re Warmerdam, 33 F.3d 1354, 1361, 31 USPQ2d 1754, 1759 (Fed. Cir. 1994). The inquiry is merely to determine whether the claims do, in fact, set out and circumscribe a particular area with a reasonable degree of precision and particularity. In re Moore, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971). The definiteness of the language employed must be analyzed -- not in a vacuum, but in light of the teachings of the prior art and of the particular application disclosure as it would be interpreted by one possessing the ordinary level of skill in the pertinent art. Id.

In accordance with these guidelines, we interpret the claims before us. Instant claim 1 recites a method comprising passing illumination "along a plurality of different transmission paths" through an interior portion of a material. Each of the paths are defined by "corresponding and separated surface areas on said material." Each "path" is thus defined not only by one or more "corresponding" surface areas, but also by one or more "separated" surface areas.

One of the "surface areas" -- presumably, either of one of the group of "corresponding" and "separated" surface areas -- is for passing illumination into the material. The "second" of the surface areas is for passing transmitted illumination from the material. The recitation of "the second of said surface areas" lacks proper antecedent in the claim, as no "second" of the surface areas has been positively recited or defined. The language "corresponding and separated surface areas," by its terms, is not limited to only two "surface areas."

The claim next refers to "at least one of said surface areas of each of said paths." The "at least one of said surface areas" is clear enough. However, what might be the surface areas "of each of said paths" is unclear, since the claim does not set forth with particularity the "areas" that define each of the paths.

In any event, at least one of these "areas" is "extended in length at substantially constant spacing from the other surface area of said each of said paths." While an "area" might be defined by a length and a width, the claim does not inform with respect

to what dimension the "at least one" of the "areas" may be considered the "length," nor how an "area" may be "extended in length at substantially constant spacing" from another "area."

The claim next recites that "the total length of said extended surface area of said each of said paths being substantially greater than the mean distance separating said corresponding and separated surface areas defining said each of said paths." The recitation of "said extended surface area" lacks proper antecedent in the claim. The "total length" of the "extended surface area" is thus rendered indefinite, at least for the reason that "said extended surface area" lacks proper antecedent.

The claim associates at least two "surface areas" with each transmission path. "[S]aid extended surface area" thus might refer to one or the other of the at least two "surface areas," or to a summation of the at least two "surface areas." In addition, there is no guidance in the claim, nor in the disclosure, with respect to how the "total length" of this "extended surface area" is to be measured.

The claim recites that this "total length" is "substantially greater than the mean distance separating said corresponding and separated surface areas defining said each of said paths." The claim language setting forth these multiple "surface areas" under our present scrutiny was apparently added during prosecution.² We do not find

² The recitations concerning the "surface areas" may also raise the question of written description support for the invention now claimed, which a requirement of 35 U.S.C. § 112, first paragraph. However, we consider the claims first under the second paragraph of the statute, and find them lacking. Since the claims are of indeterminate scope, we do not reach the written description issue. See In re Moore, 439 F.2d

any part of the written description or the drawings to explain the recitations. Appellant, in the Brief's "Summary of the Invention" section (page 8), states that "[t]he geometry of the detection and source apertures is to provide substantially constant values of the spacing between all points within a given source aperture and a given detection aperture ([specification] page 8, line 32 through page 9, line 4)."

The instant specification, at page 8, line 32 through page 9, line 4 describes, generally, that the "structure allows selection of a wide variety of spacings and locations," and that "[w]hile the examples shown here show ring geometries, other geometries, such as parallel slits or small apertures, which provide substantially constant values of the spacing between all points within a given source aperture and those within a given detection aperture may be used."

The specification section, however, does not use or explain the language of claim 1. Moreover, the section is of little use in explaining the feature that appellant wishes to claim. A source aperture and a detection aperture may be associated with surface areas on the material being investigated. However, since there are an infinite number of points within any two-dimensional surface area, and a linear separation between any two points within a surface area, we do not see how there may be "substantially constant values" of the spacing "between all points" within any single

1232, 1235, 169 USPQ 236, 238 (CCPA 1971) ("Any analysis...should begin with the determination of whether the claims satisfy the requirements of the second paragraph [of section 112].")

area. Nor, for that matter, between the points within one surface area with respect to another surface area, if the description in the specification is to be interpreted as referring to two separate areas.

We thus conclude that instant claim 1 fails to reasonably apprise those of skill in the art of its scope. Claim 34, although not rejected over the prior art, depends from claim 1 and is therefore also rejected by us under 35 U.S.C. § 112, second paragraph.

We also consider the limitations of instant claim 7 which are related to the "geometry" of the apparatus to be indefinite. Claim 7 recites aperture means "for defining corresponding and separated surface areas" on the material under study. The recitation of "the second of said surface areas" has no clear antecedent in the claim. The claim further recites that "at least one of said surface areas of each of said transmission paths being extended in length." However, what may be considered the "length" of the "at least one of said surface areas" is not set forth in the claim or the specification.

Additionally, the recitation of "the total length of said extended surface area of said each of said transmission paths" is indefinite, at least for the reasons that "the total length" is indeterminate, and "said extended surface area" lacks proper antecedent in the claim. As with claim 1, appellant's "Summary of the Invention" and the specification does not enlighten with respect to how the language of claim 7 is to be interpreted. We note that instant claim 38, depending from claim 7, recites "said surface areas of each

of said paths to be concentric." Claim 7 thus must be thought to be inclusive of the disclosed "ring geometry." However, claim 37, also depending from claim 7, recites "said surface areas of each of said paths to be parallel." Claim 7 must also be thought to embrace subject matter that is alluded to, but not clearly disclosed, in the instant specification; i.e., the "parallel slits" mentioned in passing at the top of page 9.

We therefore conclude that claim 7, and claims 37-42³ depending therefrom and including the limitations of claim 7, fail to pass muster under 35 U.S.C. § 112, second paragraph.

Instant claims 33 and 36 contain indefinite limitations regarding "surface areas being extended in length. Claim 33 recites "the total length of said extended surface area of said each of said paths being substantially greater than the mean distance separating said corresponding and separated surface areas defining said each of said paths." Claim 36 recites "the total length of said extended surface area of each of said paths being substantially greater than the distance separating said corresponding and separated surface areas defining said each of said paths." Claims 33 and 36 also recite "an extended surface area of one of said paths being contained within the boundary defined by an extended surface area of another of said paths," which again raises the question with respect to what an "extended surface area" may be. We

³ Although claims 41 and 42 were not rejected over the prior art, we include the claims in this new ground of rejection because they incorporate the limitations of instant claim 7.

conclude, based on these limitations pointed out in claims 33 and 36, that the claims must also be rejected under 35 U.S.C. § 112, second paragraph. Claim 42, which incorporates the limitations of indefinite claim 7 or indefinite claim 36 in the alternative, is rendered indefinite by either incorporation.

We note that instant claim 6, not rejected over the prior art, contains similar indefinite limitations. The recitations concerning "the second of said surface areas," surface areas being "extended in length," and "the total length" of an "extended surface area" renders the claim indefinite under section 112. Each of claims 35 and 43, also not rejected over the prior art, recites "at least one of said surface areas of one of said paths being extended in length at substantially constant spacing from the other surface area of said path." We conclude that claims 35 and 43 also fail to pass muster under the statute, because "the other surface area" lacks proper antecedent in the claim, and there is no guidance in the instant disclosure explaining what the term "extended in length" may mean.

The claims depending from claim 43, namely claims 45-52, are indefinite at least for the reason that each incorporates the limitations of claim 43. Moreover, the dependent claims further obfuscate the subject matter. Claims 46 through 49 refer to one or more surface areas as "extended," "extended in length," or "extended and parallel."

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For the foregoing reasons, we reject claims 1, 6, 7, 33-43, and 45-52 under 35 U.S.C. § 112, second paragraph.

CONCLUSION

The rejection of claims 1, 7, 33, and 36-40 under 35 U.S.C. § 103 is reversed.

Claims 1, 6, 7, 33-43, and 45-52 are newly rejected by us under 35 U.S.C. § 112, second paragraph.

This decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b) (amended effective Dec. 1, 1997, by final rule notice, 62 Fed. Reg. 53,131, 53,197 (Oct. 10, 1997), 1203 Off. Gaz. Pat. & Trademark Office 63, 122 (Oct. 21, 1997)). 37 CFR § 1.196(b) provides that, "A new ground of rejection shall not be considered final for purposes of judicial review."

37 CFR § 1.196(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings (§ 1.197(c)) as to the rejected claim:

(1) Submit an appropriate amendment of the claim so rejected or a showing of facts relating to the claim so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner

....

(2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

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No time period for taking any subsequent action in connection with this appeal
may be extended under 37 CFR § 1.136(a).

REVERSED -- 37 CFR § 1.196(b)



ERROL A. KRASS
Administrative Patent Judge



LEE E. BARRETT
Administrative Patent Judge



HOWARD B. BLANKENSHIP
Administrative Patent Judge

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